

**DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/MANAGEMENT/
COMMERCIAL PRACTICE, NOVEMBER - 2024**

BUILDING PLANNING AND DRAWING

[Maximum Marks : 100]

[Time : 3 hours]

[Notes:- 1. Question No.II is compulsory.

2. Missing data may be suitably assumed.
3. Drawing shall be neat and fully dimensioned.
4. A2 size drawing sheet to be supplied.]

PART-A

(Maximum marks: 15)

I. Answer **all** questions in one or two sentences. Each question carries 1½ marks.

1. What is meant by a strip footing?
2. What is a waist slab?
3. Define FAR.
4. What is coverage?
5. What is the meaning of 12 DT 21?
6. What is a Cul-de-sac?
7. Define mezzanine floor.
8. Differentiate Plinth area and covered area.
9. Write down any three classifications of buildings based on occupancy.
10. What is the vertical overhead clearance needed from electric line (low voltage) to a building? (10x1½=15)

PART - B

(Maximum Marks : 85)

- II.** (a) Prepare a line plan for a residential building to suit for a plot of 15 m x 20 m size situated in panchayath jurisdiction area based on the rules and regulations of KMBR. The total built-up area of the building should be between 120 sq m and 130 sqm. Write the actual built up area. The house should contain the following facilities:

- (i) Living cum dining room (ii) Bedrooms – 2 nos with attached toilets.
 (iii) Kitchen (iv) Sitout.

A road of 6 m width is abutting the 15 m side of the plot which is in the north side. Prepare schedule of door and window openings. (25)

- (b) Draw to a scale 1:50 the following views of the school building shown in the line plan (Fig.- 1), assume missing specifications suitably
- (i) Plan (15)
 (ii) Sectional view on AA (15)

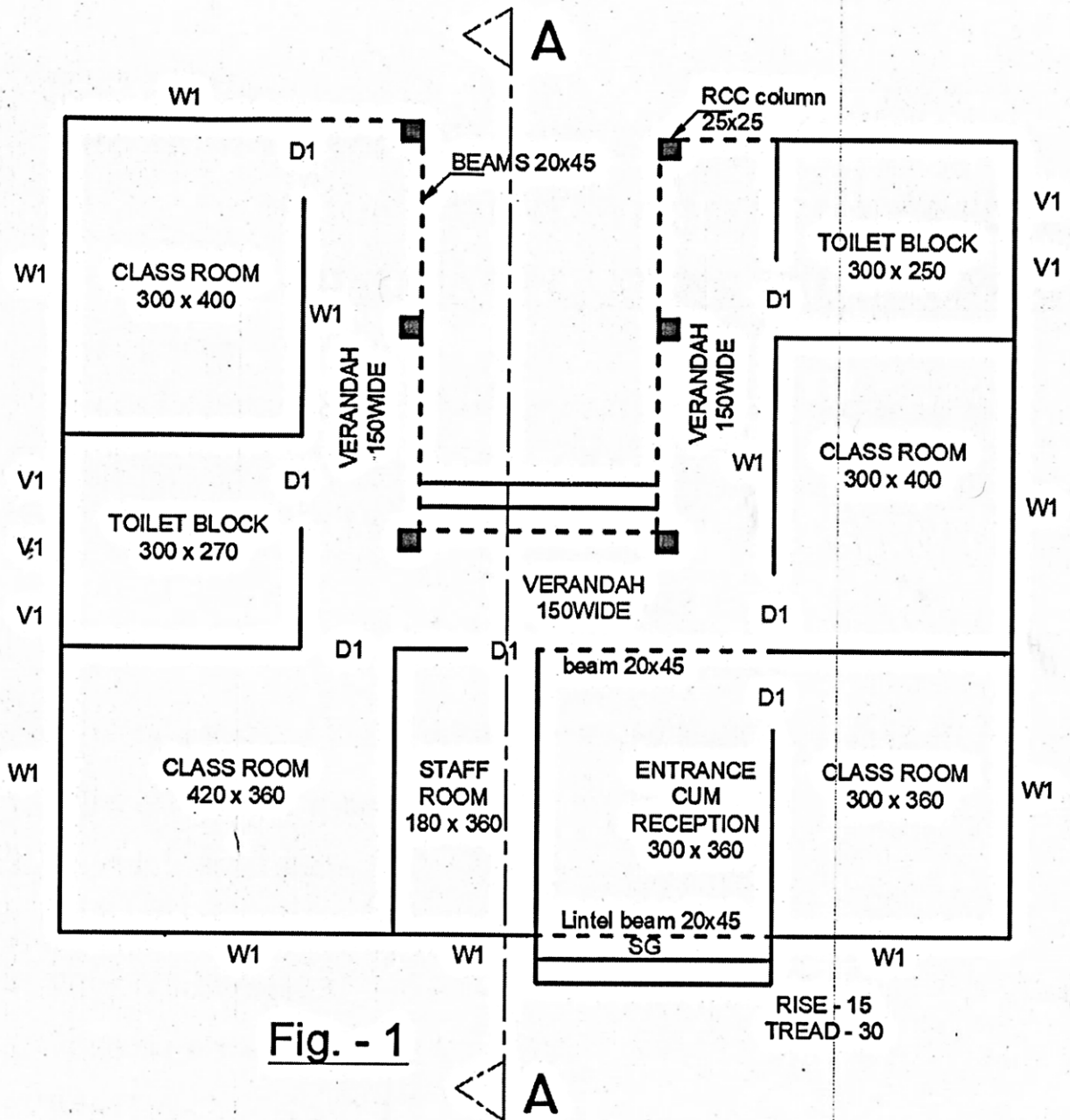
- III.** Prepare the reinforcement detailing of an RCC footing. Size of column 250x600mm, size of footing 1200 x 1800 mm, the thickness of the base PCC 100 mm 1:4:8, the depth of footing is 1800 mm and thickness of footing is 600 mm at column face, 250 mm at the edge, the reinforcement of footing – 16 mm diameter at 100 mm c/c spacing along both directions. Reinforcement of column is 16 mm diameter 6 nos. (15)

OR

- IV.** Draw a plan and cross section of an RCC half turn stair for a public building.
- (i) Floor to floor height – 390 cm
 (ii) Width of stair and landing – 120 cm
 (iii) Rise and tread – 15 cm and 30 cm
 (iv) Provide a pipe 6 cm diameter for the handrail at a height of 80 cm from the level of the steps, Balusters are of 2.5 cm square bar, one per each step.
 (v) Waist slab – 12 cm thick, main bars 12 mm dia at 15 cm c/c, distributors 8 mm dia at 20 cm c/c. (15)
- V.** Prepare an Electrical Service plan of the given plan Fig. -1. The positions of various electrical fittings and connections should be clearly indicated in the plan. (15)

OR

- VI.** Draw the half sectional elevation along the centre line of the road of a slab culvert across a stream with the following details:
- Roadway – 6m. Clear span – 2000mm.
 - Bed level of stream - +10.00m, Foundation level - +9.40m, Road level - +12.30m.
 - Foundation PCC 1:3:6 grade 150mm thickness.
 - Thickness of abutment 400mm throughout the height.
 - Thickness of slab 300mm, Thickness of wearing coat 75mm.
 - The returns are splayed projecting 1200mm from the earth face of the abutment.
- Height of parapet above slab 800mm, coping 100mm thick with 80mm projections.
 Flooring consists of stone revetment 300mm thick. Provide adequate kerb. (15)



1. FLOOR HEIGHT 360cm
2. FOUNDATION: PCC - 80X15, DR - 60X60
3. BASEMENT: RR - 45X35, RCC BELT 45X10
4. WALL - 20THICK BRICK MASONRY
5. 60cm SUNSHADE ALL AROUND AT 210 LVL
6. ROOF SLAB 12CM THICK, 15CM PROJECTION
7. PARAPET 75CM HEIGHT, 15CM THICK.
8. D1 - DOOR 100X210
9. SG - STEEL GRILL (FULL SIZE)
10. WINDOW: W1 - 200X140 (4 shutter), W2 - 150X140 (3 shutter)
11. V1 - VENTILATOR 60X60
12. ALL DIMENSIONS ARE IN CENTIMETERS
